ABSTRACT

A Serial Communications Controller (SCC) is configured to provide TDM multiplexing of signals regardless of whether such signals are synchronous or asynchronous signals. When an asynchronous signal is detected, the data rate of the asynchronous signal is automatically measured. The two data streams are buffered, e.g., by FIFOs. Data is clocked-out from the FIFOs into periods of a TDM signal which has a period at least twice that of the faster of the two input signals. In one embodiment alternate periods of the TDM signal are used for the first and second input signals. Bits from the slower of the two input signals are repeated a sufficient number of times, in the TDM signal, that ratio of the rate at which new data bits from the second signal are placed into the TDM signal, to the rate of output of bits from the first stream onto the TDM signal equals (on average) the ratio of the data rates of the first and second input streams. When the ratio of the data rates of the input streams is non-integral, the number of times the bits from the second or slower data stream are repeated, is dithered to keep accumulated skew of data rates in the TDM signal less than a predetermined threshold, such as the duration of a TDM period.